

ISSN 1682-8356  
ansinet.org/ijps



INTERNATIONAL JOURNAL OF  
**POULTRY SCIENCE**

**ANSI***net*

308 Lasani Town, Sargodha Road, Faisalabad - Pakistan  
Mob: +92 300 3008585, Fax: +92 41 8815544  
E-mail: editorijps@gmail.com

## Avian Influenza Outbreaks in Southeast Asia Affects Prices, Markets and Trade: A Short Case Study

Sigfrido Burgos<sup>1,3</sup> and Sergio A. Burgos<sup>2</sup>

<sup>1</sup>Food and Agriculture Organization of the United Nations, AGAL-PPLPI, Rome, Italy

<sup>2</sup>University of Guelph, Department of Animal and Poultry Science, Ontario, Canada

---

**Abstract:** Poultry deaths caused by Highly Pathogenic Avian Influenza (HPAI), loss of consumer confidence, government-mandated culling and export bans are some of the reasons for reduced supply of poultry products to food markets. Reluctance to purchase poultry and its products due to fears of disease contraction has increased demand for other sources of animal protein, which in turn raised prices for other meats. HPAI and its effect on poultry meat consumption disrupt poultry trade patterns

**Key words:** Avian influenza, HPAI H5N1, Asia, prices, markets, trade

---

### Introduction

Repeated outbreaks of HPAI (H5N1 virus subtype) had a major adverse impact on the global poultry industry, especially on prices, markets and trade. Collective import demand for both fresh poultry and poultry products declined substantially after avian influenza was headlined by the media and consequently fuelled consumers' fear of contracting avian influenza by eating poultry meat. Massive aversion profoundly affected consumption of poultry in many SE Asian countries, leading to lower poultry meat exports, depressed domestic prices, decreased production and reduced profits. These disruptions proved -if anything- to be short lived, as exports, consumption, prices and production returned to pre-outbreak levels in a relatively short period of time. These crises demonstrate the dynamic resilience of the global poultry sector.

Little has been published about the extensive spillover effects of transboundary animal diseases on the economies of countries that host them. For example, in 2003, Severe Acute Respiratory Syndrome (SARS) killed less than one thousand people, yet it represented an economic loss of approximately 2% of East Asian regional GDP for the second quarter of 2003 (Brahmbhatt, 2005). Moreover, it is estimated that a full-blown influenza pandemic in the USA might cause economic losses between 71 to \$167 billion, excluding disruptions to commerce and society (Meltzer *et al.*, 1999).

The unfathomable nature of random events tells us that the past cannot predict the future, but useful lessons can be drawn from it. For example, during SARS, infection minimization efforts resulted in a dramatic supply shock due to workplace absenteeism, disruption of production processes and shifts to more costly procedures; as well as a severe demand shock for service sectors such as restaurants, hotels, bars, stores, supermarkets, tourism and mass transportation. Our relationship to animal

diseases is going to become more grievously intimate due to population growth, overcrowding of cities, complex supply chains and the appearance of novel pathogens; and this is just enough to warrant further research.

Government-led consumer education focusing on risk minimization practices and media coverage of communities in SE Asia that have successfully implemented comprehensively inclusive programs to control avian influenza can alleviate consumers' fears and subsequently entice them to regain their lost confidence in poultry raising as a source of protein and complementary family income. It is worth noting that from November 2003 to December 7, 2007 there have been a total of 336 confirmed cases with 207 deaths, resulting in a 61.61% mortality rate (WHO, 2007).

**Examples of Price Changes:** Zoonoses affect food prices. After identification and confirmation of epizootic SARS-like coronaviruses in civet cats (Guan *et al.*, 2003), the Chinese government imposed a restrictive ban on civet cats from all live animal markets in South China. Customers demand for these animals drove prices up to \$200 each in black markets, making it almost impossible to control movements of these infectious disease hosts (Webster, 2004) and much harder to effectively implement disease surveillance programmes. Price changes are often seen from the consumer side, but overlooked from the producer side, thus their reactions to these disruptions are often ignored. Price swings can be considerable depending on the availability and price of alternative meats (i.e., beef, pork, fish). For example, the broiler and egg markets were most severely affected after HPAI surfaced in SE Asia. In Cambodia, during the first two months of 2004, egg prices dropped from US\$0.05 to US\$0.03 each and prices per kg of broiler went from a steady KHR 4,000 to KHR 1,500; this represents a 62.5% price drop (VSF,

## Burgos and Burgos: Asian Avian Flu Affects Prices, Markets and Trade

2004). Similar price drops occurred in Vietnam, Laos and Myanmar.

Overall, exports bans imposed on Asian AI-infected countries reduced the global supply of poultry products and contributed to nearly 15% increase in international poultry prices. Also, HPAI outbreaks had a moderate impact on U.S. exports of feed ingredients (i.e., soybeans and soybean meal) to SE Asia and China (Monke, 2004).

**Examples of market changes:** The generally held definition of 'market' is that of an arrangement that allows buyers (demand side) and sellers (supply side) to discover, exchange and agree on information to carry out a voluntary exchange of money for goods or services. These markets are influenced by internal and external forces, which can be controllable and uncontrollable. Zoonoses are mostly uncontrollable, unpredictable, external forces.

The crises sustained by Southeast Asian countries illustrates well how markets get disrupted: HPAI outbreaks caused losses of ~42 million birds in Vietnam (18% of total) and ~64 million in Thailand (15% of total). In Vietnam, for example, direct and indirect losses due to outbreaks represented 0.12 to 0.27% of GDP, which translates to US\$45 to US\$135 million (WB, 2005; McLeod *et al.*, 2006) and in Laos, total loss amounted to 3% of national flock, with ~80% of culled birds localized in a single province (Rushton *et al.*, 2005). Additionally, as a consequence of these massive losses, Thailand lost its hardly-earned position as world's fifth largest poultry meat exporter. Furthermore, it was preliminarily estimated that a SE Asia region-wide bird flu pandemic, including spillover effects, could result in a 1.5% GDP growth reduction for countries heavily invested in poultry as livestock (McLeod *et al.*, 2006). These massive bird losses affect the supply of live and processed poultry to markets.

In North Vietnam, the HaVi wholesale market was established in 1995 and is currently the biggest live poultry market with >10,000 bird transactions/day. Before HPAI, minimum food safety measures were engaged at HaVi, but after avian influenza managed to kill almost two-fifths of their national poultry stock, market restructuring occurred rapidly to accommodate increased demand for improved food safety and animal health. A rapid market appraisal reveals that the majority of participants support having cleaner shops and abattoirs (Lan *et al.*, 2007). Moreover, in Hanoi, Vietnam, a poultry market consumer survey indicates that both, buyers and sellers support public-private initiatives for demand-side, market-oriented policies that could significantly contribute to manage HPAI risk. Consumers are willing to pay a safety 'premium' that could sustainably finance a poultry certification scheme (Ifft *et al.*, 2007); including sampling, testing, labelling, veterinary inspections, fines and ads.

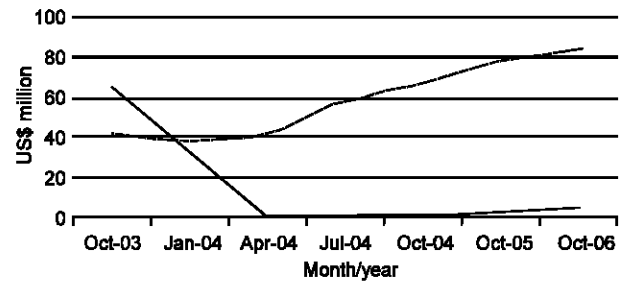


Fig. 1: Thailand's export value of uncooked (solid line) and Cooked (dashed line) Poultry, Oct-2003 to Oct-2006

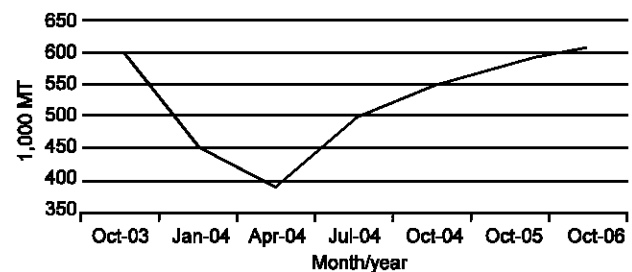


Fig. 2: World Exports of Uncooked Poultry Meat, Oct-2003 to Oct-2006

**Examples of trade changes:** In early 2004, European Union (EU) member states decreed a suspension of imports of chicken products and pet birds from Asian countries affected by HPAI H5N1. The ban covered imports of fresh chicken meat and frozen chicken products from Thailand and pet birds from Cambodia, Indonesia, Japan, Laos, Pakistan, China, South Korea, Thailand and Vietnam. Other countries followed to impose import bans.

Direct chicken losses due to avian influenza and multi-country bans are blamed for a 91% drop in exports of Thai frozen chicken and chicken products through the first 10 months of 2004 (Fig. 1). Thailand's Office of Agricultural Economics said that in 2004 frozen chicken product exports dropped to a low of 26,375 tons worth 1.732 billion THB compared with 304,446 tons worth 20.345 billion THB for the same period in 2003. A series of challenges opened up lucrative opportunities for creatively adaptable firms; and this is confirmed by significantly increased export shipments of cooked chicken from Thailand to the EU after they banned fresh, frozen chicken in 2004 due to bird flu concerns (i.e. from 77,749 tons in 2005 to 127,709 tons in 2006; a 64% yearly gain). Cooked chicken sent within the newly established WTO tariff quota is taxed at 8%. Any excess is taxed at €1024/ton (World Poultrymeat, 2007).

The import bans caused a 23% decline in global cooked and uncooked poultry meat exports from 4th quarter 2003 to 1st quarter 2004 (Fig. 2). As consumers gained

confidence that poultry was safe if properly handled and cooked, world demand for cooked poultry increased. Global cooked poultry exports in 2004 rebounded and rose 3.2% and in 2005 another 42%. In 2004, global uncooked poultry exports declined 6.9% but rose 10% in 2005. In 2006, cooked poultry exports rose 13%, while uncooked poultry exports declined 1% from 2005 (Taha, 2007; WB, 2005).

**Concluding remarks:** Highly pathogenic avian influenza has had negative impacts on global and SE Asian poultry and related industries during the last 4 years. Prices of eggs and meat dropped sharply after the first outbreak reports and the prices of other meats skyrocketed on increased demand for safer options. Markets saw reduced supply of poultry meat but increased demand for beef, pork and fish; with retailers altering their hygiene practices and revamping safety measures, coupled with heightened regulatory oversight. Trade shifted toward cooked poultry; and after many countries levied stern import bans on fresh poultry meat, its export volumes sunk precipitously.

Industrially integrated poultry enterprises were mainly affected due to export losses, but their financial grounding aided in withstanding these impacts better. Large, medium and small commercial poultry producers serving domestic markets suffered the most due to temporary shift toward other sources of protein and also by a loss of consumer confidence; yet, despite of these shocks, international and national production and trade can and do recover from periodic epizootic HPAI outbreaks.

Globalization-strictly referring to the development of an integrated global economy marked especially by free trade, free flow of capital/people and access to cheaper foreign labour markets- has brought an unwelcome problem: increased risk of transboundary animal diseases. HPAI clearly demonstrates that, through extensions of livestock supply chains beyond national borders, the local conditions of improperly risky animal production systems can have repercussions on global human health.

Unrealistic international projects goals, blanket prescriptions and donors' alms will temporarily abate the symptoms without tackling the ailment. A committed local initiative is needed to effectuate new ways of seeing animal-human relationships. For example, national media airings of successful poultry production and avian influenza control programmes coupled with government-endorsed educational television spots stressing adoption of preventive measures could be more rewarding to society and economy-at-large than the disparate, dissonantly incoherent efforts so far engaged.

To ensure effective, affordable and socially-fair HPAI

control programmes, national and international policy making needs to be based on stringent analysis of risks, consequences and risk management options. Delayed and uncommitted disease mitigation efforts can result in a painfully prolonged drain of economic resources from national coffers. Ultimately, taxpayers will pay the bills without equitable reciprocity.

It is worth noting that changes in prices, markets and trade of poultry products in SE Asia cannot solely be attributable to cyclical HPAI outbreaks, but also to incoming international competition, shifting consumer preferences and relative prices of household food items, just to mention a few. Also, the region is highly vulnerable to a wide range of natural disasters (i.e., tsunamis, earthquakes and flooding) having a significant impact on the livestock sector and the livelihoods of livestock producers.

### **Acknowledgments**

The authors are grateful to M. J. Otte and J. Cant for their sincere encouragement to publish poultry-related work and for facilitating a platform to freely exercise scientific thinking and creative expression. Also, Charlotte Lietaer for her advice and support.

### **Disclaimer<sup>3</sup>**

Mr. Sigfrido Burgos is an international research consultant with FAO. Ideas expressed in this article represent solely his personal opinions and views and are not necessarily endorsed by the international organisation that currently employs him.

### **References**

- Brahmbhatt, M., 2005. Avian and human pandemic influenza: Economic and social impacts. Paper presented at WHO headquarters in Geneva, Nov. 7-9, pp: 7.
- Guan, Y., B.J. Zheng, Y.Q. He, X.L. Liu, Z.X. Zhuang, C.L. Cheung, S.W. Luo, P.H. Li, L.J. Zhang, Y.J. Guan, K.M. Butt, K.L. Wong, K.W. Chan, W. Lim, K.F. Shortridge, K.Y. Yuen, J.S.M. Peiris and L.L.M. Poon, 2003. Isolation and characterization of viruses related to the SARS Coronavirus from animals in Southern China. *Science*, 302: 276-278.
- Ifft, J., M.J. Otte, D. Roland-Holst and D. Zilberman, 2007. Demand-oriented approaches to HPAI risk management. FAO's Pro-Poor Livestock Policy Initiative (PPLPI) Research Report. October 2007, pp: 8.
- Lan, L.T.K., H.D. Quoc and R. Soares-Magalhaes, 2007. Sources and destinations of poultry traded in HaVi market: results of a participatory appraisal. FAO's Pro-Poor Livestock Policy Initiative (PPLPI) Research Report. February 2007, pp: 6.

# **Burgos and Burgos: Asian Avian Flu Affects Prices, Markets and Trade**

- McLeod, A., N. Morgan, A. Prakash and J. Hinrichs, 2006. Economic and social impacts of avian influenza. FAO Document, 10 pages. [http://www.hewsworld.org/downloads/avian\\_flu/docs/pdf/economic\\_impacts.pdf](http://www.hewsworld.org/downloads/avian_flu/docs/pdf/economic_impacts.pdf)
- Meltzer, M., N.J. Cox and K. Fukuda, 1999. The economic impact of pandemic influenza in the United States: Priorities for Intervention. *Emerg. Infect. Dis.*, 5: 659-671.
- Monke, J., 2004. Avian Influenza: multiple strains cause different effects worldwide. Congressional Research Service at the USA Library of Congress. Doc # RS21747.
- Rushton, J., R. Viscarra, E. Guerne-Bleich and A. McLeod, 2005. Impact of avian influenza outbreaks in the poultry sectors of five South East Asian countries (Cambodia, Indonesia, Lao PDR, Thailand, Viet Nam) outbreak costs, responses and potential long term control. *World's Poult. Sci. J.*, 61: 491-514.
- Taha, F.A., 2007. How highly pathogenic avian influenza (H5N1) has affected world poultry-meat trade. Economic Research Service/USDA, LDP-M-159-02, pp: 27.
- VSF-Vétérinaires Sans Frontières, 2004. Review of the poultry production and assessment of the socio-economic impact of the highly pathogenic avian influenza epidemic in Cambodia. Final Report for FAO's TCP/RAS/3010 "Emergency Regional Support for Post Avian Influenza Rehabilitation". FAO, Rome, Italy, pp: 89.
- Webster, R.G., 2004. Wet Markets-A continuing source of severe acute respiratory syndrome and influenza? *Lancet*, 363: 234-236.
- WHO-World Health Organization of the United Nations, 2007. Confirmed human cases on avian influenza A (H5N1), [http://www.who.int/csr/disease/avian\\_influenza/country/cases\\_table\\_2007\\_12\\_07/en/index.html](http://www.who.int/csr/disease/avian_influenza/country/cases_table_2007_12_07/en/index.html)
- WB-World Bank, 2005. East Asia and Pacific Regional Update. 65 pages, <http://siteresources.worldbank.org/INTEAPHALFYEARLYUPDATE/Resources/EAP-Brief-final.pdf>
- World Poultrymeat, 2007. Thailand to export more to Europe. No. 104, July 4, pp: 7.